



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/862,864

05/22/2001

John Courtney

0673-1028

1085

23644

7590

11/03/2004

BARNES & THORNBURG

P.O. BOX 2786

CHICAGO, IL 60690-2786

EXAMINER

KHUONG, LEE T

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/862,864	COURTNEY ET AL.	
	Examiner	Art Unit	
	Lee Khuong	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/22/2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 12 is objected to because of the following informality:

Applicant is suggested to change the word "or" to "order" on page 35, line 30.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Takemura et al (US 6,671,271) hereinafter referred as Takemura.

Regarding claims 1-9, 12-20, Takemura discloses a Hitless Protection Switching apparatus:

a) *receive data signals on at least two transmission paths and to output data from a selected one of said transmission paths* (see Fig. 9, #181, #196, see col. 14, lines 39-65, col. 15, lines 5-7, two input cell streams and output signal #196),

b) *a selector mechanism for selecting between transmission paths* (see Fig. 9, ASIC #102, see col. 15, lines 14-16, one of the cell streams is selected based on path quality information),

c) arranged to align the respective data signals received on said transmission paths so that said selector mechanism is able to select between corresponding elements of said received data signals (see Fig. 9, #178, col. 15, line 5, the buffer #178 arranges cell streams #181 so that the selector #102 can compare the two streams #181 and selected a best quality data path of the received streams as its output in received order).

Regarding claim 2, Takemura discloses said received signal is buffered (see Fig. 9, #178 col. 15, line 5).

Regarding claim 3, Takemura discloses receive data signals on an active path and a standby path, each path carrying an identical data signal (see Fig. 9, #181, lines 5-7).

Regarding claim 4, Takemura discloses

a) each element of each received data signal is associated with a tag indicating the position of the element (see col. 15, lines 18),

b) the selector mechanism being arranged to select between elements having corresponding tags (see col. 9, line 18),

c) said output data comprises said selected elements in sequential order according to the positional information indicated by the respective tags (see col. 15, lines 5-25, process the ATM cells according to their arriving order).

Regarding claim 5, Takemura discloses

a) *said signal elements are comprised in a respective data frame (see col. 1, lines 43-46, an STS-1 signal is organized as frames,*

b) *the selector mechanism being arranged to select between corresponding signal elements on a frame-by-frame basis (see Fig. 9, #188, col. 14, lines 39-67, col. 15, lines 1-4).*

Regarding claim 6, Takemura discloses *signal elements comprise data containers (see col. 1, lines 46-59, payload SPE also is known as the path layer of the SONET architecture).*

Regarding claim 7, Takemura discloses *tags comprise virtual concatenation overhead bits (see col. 15, lines 25-30, line and section overhead bytes).*

Regarding claim 8, Takemura discloses *said selector mechanism is arranged to compare the quality of the data signals received on said transmission paths and to select the transmission path of better quality (see col. 15, lines 10-16).*

Regarding claim 9, Takemura discloses *the apparatus is arranged to store the elements of each received data signal in a respective data buffer (see Fig. 9, #178, lines 6-8).*

Regarding claim 12, *the selector mechanism comprises a switching controller arranged to select between transmission paths, and a switch device arranged to retrieve one or more signal elements from the data buffer corresponding to the selected transmission path and to cause the order each retrieved signal element to be output (see Fig. 9, #102, col. 15, lines 5-16,*

Art Unit: 2665

the selector compares the two streams #181 and selected a best quality data path of the received streams as its output in received order).

Regarding claim 13, Takemura discloses *the switching controller is arranged to select between transmission paths in respect of each signal element* (see Fig. 9, #102).

Regarding claim 14, Takemura discloses *the switching controller is arranged to compare the quality of corresponding respective signal elements from each received data signal and to cause the switch device to retrieve the signal element having better quality* (see Fig. 9, #102, col. 15, lines 5-16).

Regarding claim 15, Takemura discloses *the switch device comprises a memory reading device* (see Fig. 9, #180).

Regarding claim 16, Takemura discloses *storing information concerning the quality of at least one element of each received data signal* (see col. 15, lines 10-12, a parity bit in each receiving stream that indicates the quality of its path).

Regarding claims 17 and 18, these claims have similar limitations as claim 1. Therefore, it is rejected under Takemura for the same reasons set forth in the rejection of claim 1.

Regarding claim 19, Takemura discloses

Art Unit: 2665

a) *a first synchronous transmission apparatus arranged to transmit data signals across a network on at least two transmission paths* (see Fig. 9, #181, inherently there is a first apparatus of transmitting the active and standby #181 signals); and

b) *a second synchronous transmission apparatus arranged to receive said data signals on said at least two paths* (see Fig. 9, #181),

c) *wherein the first synchronous transmission apparatus is arranged to associate each element of each transmitted data signal with a tag indicating the position of the signal element within the data signal* (see col. 15, line 18, routing tag), and

d) *wherein said second synchronous transmission apparatus comprises a switching apparatus according to claim 1* (see Fig. 9, #102).

Regarding claim 21, Takemura discloses a Hitless Protection Switching system and method (see Fig. 9) comprising

a) *a first synchronous transmission apparatus arranged to transmit data signals across a network on at least two transmission paths* (see Fig. 9, #181, inherently there is a first apparatus of transmitting the active and standby #181 signals); and

b) *a second synchronous transmission apparatus arranged to receive said data signals on said at least two paths* (see Fig. 9, #102, 2nd synchronous apparatus, #181, data paths, see col. 14, lines 39-65, col. 15, lines 5-7),

c) *associating, at said first synchronous transmission apparatus, a tag with each element of said data signals* (see col. 15, lines 5-6, routing tags),

d) *the tag indicating the position of the signal element within the data signal* (see col. 15, lines 5-6, routing tags);

e) *aligning, at said second synchronous transmission apparatus, the respective data signals received on said at least two transmission paths* (see Fig. 9, #178, col. 15, line 5, the buffer #178 arranges cell streams #181 so that the selector #102 can compare the two streams #181 and selected a best quality data path of the received streams as its output in received order);

f) *selecting, at said second synchronous transmission apparatus, between signal elements having corresponding tags* (see Fig. 9, #102, selected a best quality data path of the received streams); and

g) *outputting said selected signal elements in sequential order according to the positional information indicated by the respective tags* (see Fig. 9, #102, col. 15, lines 5-16, the selector compares the two streams #181 and selected a best quality data path of the received streams as its output in received order).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

Art Unit: 2665

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takemura.

Regarding claims 10 and 11, Takemura discloses all claimed limitations, except data buffers are implemented in one or more RAM memory devices.

However, implementing data buffers by using one or more RAM memory devices is well known in the art for storing data.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use RAM devices as data buffers in the buffer element of Takemura's system.

The suggestion/motivation for doing so would have been to provide better performance in data queuing which leads to prevention of network congestion.

Therefore, it would have been obvious to implement RAM devices as data buffers in Takemura's system.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Asahi (US 6,222,653); Takiyasu et al (US 5,103,447); Ellis et al (US 6,256,292); Cordell (US 5,367,520); Eng et al (US 5,428,609); Manchester (US 5,793,745); Fang et al (US

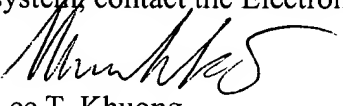
Art Unit: 2665

6,504,963) are cited to show system and method of Hitless Protection Switching, which is considered pertinent to the claimed invention.


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee Khuong whose telephone number is 571-272-3157. The examiner can normally be reached on 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Lee T. Khuong
Examiner
Art Unit 2665

**DUCHO
PRIMARY EXAMINER**


10-29-04